

an input interface configured to:

receive a non-Asynchronous Transfer Mode (ATM) data stream
from a single port,

identify ATM cells and Internet Protocol (IP) packets within the
non-ATM data stream, and

forward the ATM cells and IP packets;

an IP packet forwarding facility configured to:

receive IP packets from the input interface, and

forward the IP packets toward their destinations; and

an ATM cell switching facility configured to:

receive ATM cells from the input interface, and

switch the ATM cells toward their destinations.

5. (Twice Amended) The device of claim 1 wherein the non-ATM data stream includes synchronous optical network (SONET) frames and wherein the device further comprises a SONET deframer for deframing the SONET frames in the non-ATM data stream.

8. (Twice Amended) An apparatus for directing input toward destinations, comprising:

input ports for receiving data streams, at least one of the data streams
being a non-Asynchronous Transfer Mode (ATM) data stream;

output ports for outputting data units; and

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a director coupled to a selected one of the input ports and configured to:

- identify layer 2 data units and layer 3 data units in the at least one non-ATM data stream received at the selected input port,
- direct layer 2 data units encapsulated by an OSI layer 2 protocol to the output ports based on address information in the layer 2 data units, and
- direct layer 3 data units encapsulated by an OSI layer 3 protocol to the output ports based on address information in the layer 3 data units.

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11. (Twice Amended) In a device for directing input data traffic received on input ports to output ports, a method comprising:

- receiving a non-Asynchronous Transfer Mode (ATM) data stream at one of the input ports;
- identifying Internet Protocol (IP) packets and ATM cells in the received non-ATM data stream;
- directing an identified IP packet that is received on the one input port to at least one of the output ports based on an IP lookup operation; and
- directing an identified ATM cell that is received on the one input port to at least one of the output ports based on an ATM lookup operation.

12. (Twice Amended) The method of claim 11 wherein the device includes a Synchronous Optical Network (SONET) deframer and wherein the SONET deframer is used to deframe any SONET frames in the non-ATM data stream received at the one input port.

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14. (Twice Amended) A device for directing both Internet Protocol (IP) packets containing address information identifying destinations and Asynchronous Transfer Mode (ATM) cells containing address information identifying destination toward their destinations, comprising:

- input ports for receiving streams of input data, at least one of the streams of input data including a non-ATM stream of input data;
- output ports for outputting streams of data;
- line cards for directing input data received at the input ports to the output ports, each said line card including:
 - a device configured to identify IP packets and ATM cells in the streams of input data;
 - an IP packet forwarding facility for directing the identified IP packets to the output ports based on the address information contained in the IP packets;
 - and
 - an ATM cell forwarding facility for directing the identified ATM cells to the output ports based on the address information contained in the ATM cells.

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16. (Amended) A device for directing both Internet Protocol (IP) packets containing address information identifying destinations and Asynchronous Transfer Mode (ATM) cells containing address information identifying destination toward their destinations, comprising:

input ports for receiving streams of input data;

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output ports for outputting streams of data;
line cards for directing input data received at the input ports to the output
ports, each said line card including:
a device configured to identify IP packets and ATM cells in the
streams of input data;
an IP packet forwarding facility for directing the identified IP
packets to the output ports based on the address information contained in the IP packets;
and
an ATM cell forwarding facility for directing the identified ATM
cells to the output ports based on the address information contained in the ATM cells;
and
a multiplexer positioned before a select one of the input ports to multiplex
multiple data streams into a single input data stream.

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18. (Amended) A device for directing both Internet Protocol (IP) packets
containing address information identifying destinations and Asynchronous Transfer
Mode (ATM) cells containing address information identifying destination toward their
destinations, comprising:

input ports for receiving streams of input data;
output ports for outputting streams of data;
line cards for directing input data received at the input ports to the output
ports, each said line card including: